Braeburn®

MODEL
2200

Builder Series
5-2 Day Programmable
Multi-Stage 2 Heat/1 Cool
Heat Pump Digital Thermostat

USER MANUAL

Compatible with low voltage multi stage heat/cool systems with up to two stages of heating and one stage of cooling. Do not use this thermostat on applications with voltages above 30 Volts AC.

READ ALL INSTRUCTIONS BEFORE PROCEEDING

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WARNING!
Important Safety Information

- Always turn off power to the air conditioning or heating system prior to installing, removing, cleaning or servicing thermostat.
- Read this manual thoroughly prior to installing, programming or operating this thermostat.
- This thermostat is designed for use with 24 Volt-AC low voltage multi-stage heat pump systems.
- Do not use this thermostat on applications with voltages above 30 Volts AC.
- This thermostat requires two (2) properly installed "AA" alkaline batteries to maintain system clock during power outages.
- The system must have 24 Volt AC power present for proper system operation and control.
- Wiring must conform to all building codes and ordinances as required by local and national code authorities having jurisdiction.
- Do not short (or jumper) across terminals at the heating or cooling system control board to test the thermostat installation. This could damage the thermostat and void the warranty.
- Do not select COOL mode of operation if the outside temperature is below 50˚ F (10˚ C). This could possibly damage the controlled cooling system and may cause personal injury.
- This thermostat should only be used as described in this manual. Any other use is not recommended and will void the warranty.

1 SPECIFICATIONS

- Electrical Rating: 24 Volt AC (18-30 Volt AC)
  1 amp maximum load per terminal
  3 amp total maximum load (all terminals)
- Control Range: 45˚ - 90˚ F (7˚ - 32˚ C)
- Accuracy: +/- 1˚ F (+/- .5˚ C)
- AC Power: 18-30 Volts AC
- DC Back-Up Power: 3.0 Volts DC (2 AA alkaline batteries included)
- Compatibility: Multi-stage heat pump systems with up to two stages of heating and one stage of cooling.
- Terminations: R, O, B, C, Y, E, G, W2

2 INSTALLATION

2.1 Replacing Existing Thermostat

1. Always turn off power to the air conditioning or heating system prior to removing existing thermostat.

2. Remove the cover of your old thermostat and locate the wire terminals. Do not remove wires from terminals yet.

3. Using small pieces of masking tape, label wires prior to removal from terminals. Use the chart below to determine the new terminal designations for your new thermostat.

Old Terminal from Existing Thermostat	New Terminal for New Thermostat	Terminal Description
R, V-VR or VR-R	R	24 VAC
B	O	Reversing Valve (Cooling)
O	B	Reversing Valve (Heating)
C	C	24 VAC common
Y, Y1 or M	Y	1st Stage Heat / Cool
W, E or W1	E	Emergency Heat
G or F	G	Fan Control
W1, W2 or W-U	W2	2nd Stage Heating

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2 INSTALLATION *cont.*

2.1 Replacing Existing Thermostat *cont.*

4. After labeling and removing all wires from terminals, unscrew the existing thermostat sub-base from wall. Make sure to secure wires to prevent them from slipping back into the hole in the wall.

NOTE: *This thermostat is designed for use with a 24 Volt AC low voltage multi-stage heat pump system. Do not use this thermostat on applications with voltages above 30 Volts AC.*

2.2 Installing Your New Thermostat

NOTE: *If you are installing this thermostat in a new installation be sure to locate the thermostat 4 to 5 feet above the floor in accordance with applicable building codes. Make sure to install the thermostat in a location that provides good airflow characteristics and avoid areas behind doors, near corners, air vents, direct sunlight or near any heat generating device. Installation in any of these areas could impact thermostat performance.*

1. Always turn off power to the air conditioning or heating system prior to installing your new thermostat.

2. Place system switch on front of thermostat to the **OFF** position.

3. Place fan control switch on front of thermostat to the **AUTO** position.

4. Remove front of thermostat body from sub-base by pressing release latch on bottom of front body.

5. Place the thermostat sub-base against wall in the desired thermostat location.

6. Guide thermostat wires through center hole in sub-base. Continue to hold sub-base against wall.

7. Mark placement of mounting holes as appropriate and drill using a 3/16" drill bit.

8. Gently tap supplied plastic anchors into the holes in the wall.

9. Place the thermostat sub-base against the wall in the desired location, making sure the mounting holes are aligned as appropriate and the thermostat wires are properly inserting through opening in middle of sub-base.

10. Fasten the sub-base to wall using supplied screws.

11. Connect wires to quick wiring terminal block as appropriate using the new terminal designations. Refer to *Wiring Diagram* section of this manual if required for assistance.

12. Make sure all of the wire connections are secure and are not touching any other terminal to prevent electrical shorts and potential damage to the thermostat.

13. Turn the front thermostat body over, exposing the rear view of the circuit board.

14. Locate the internal **°F / °C** switch on the circuit board.

15. Using your fingers, gently flip the switch toward the preferred temperature **°F / °C** scale.

16. Attach front body of thermostat to sub-base of thermostat, being careful to align the terminal pins on the front body with the terminal block on the sub-base.

17. Open front thermostat door and open battery compartment door.

18. Install two new "AA" alkaline batteries into battery compartment. Make sure to locate the positive (+) ends of the batteries and match them with the positive (+) terminals located in the battery compartment.

19. Close battery compartment.

20. Restore system power so you can test installation.

3 TESTING YOUR NEW THERMOSTAT

WARNING! ***Read BEFORE Testing***

- Do not short (or jumper) across terminals on the heating or cooling system control board to test the thermostat installation. This could damage the thermostat and void the warranty.
- Do not select COOL mode of operation if the outside temperature is below 50˚ F (10˚ C). This could possibly damage the controlled cooling system and may cause personal injury.
- This thermostat includes an automatic compressor protection feature to avoid potential damage to the heat pump system from short cycling. This thermostat automatically provides a 5-minute delay after turning off the heating or cooling heat pump output to protect the compressor.

NOTE: *Test your thermostat prior to programming any user settings. Pressing the **RESET** button will erase any user entries for time of day, day of week, option settings and programming if previously programmed. This will erase all user settings and return them to their default values.*

1. Place the system switch in the **HEAT** position.

2. Press the ∧ button on the keypad until the setpoint temperature setting is a minimum of 3 degrees higher than the current room temperature. The heating system should start within several seconds. The fan may not turn on immediately due to the heating system built-in fan delay.

3. Place the system switch in the **OFF** position. The heating system should stop within several seconds.

4. Wait 5 minutes for the automatic compressor short cycle protection period to expire, or press the **RESET** button to bypass this feature for initial testing purposes. Pressing the **RESET** button will erase any user entries previously programmed.

5. Place the system switch in the **COOL** position.

6. Press the ∨ button on the keypad until the setpoint temperature is a minimum of 3 degrees lower than the current room temperature.

7. The cooling system should start within several seconds. Place the system switch in the **OFF** position. The cooling system should stop within a few seconds.

8. Place the fan switch in the **ON** position. The system blower should start.

9. Place the fan switch in the **AUTO** position. The system blower should stop.

4 PROGRAMMING

4.1 Default Thermostat Settings

Function	Status After Reset
Operation Mode	Normal Operating Mode
Temperature Hold	Permanent and Temporary Hold Cleared
Clock	12:00 pm, Monday
Room Temperature	70˚ F (21.0˚ C), to be renewed within 5 seconds
Setpoint Temperature	According to system switch: 62˚ F (17.0˚ C) for Heat and Off 83˚ F (28.0˚ C) for Cool
Temperature Scale	˚F or ˚C dependent on switch setting
Operating Program	DAY program, Monday
Low Battery Warning	Off, to be renewed within 5 seconds
First Stage Differential	0.5˚ F (0.25˚ C)
Second Stage Differential	2˚ F (1.0˚ C)
Short Cycle Protection Timer	Reset
Output Relays	Off
Filter Check Monitor	0 days-off
Extended Hold	Indefinite
Adaptive Recovery Mode	Reset

4.2 Setting Current Time of Day and Day of Week

NOTE: *It is important for you to set the current time of day (note AM/PM indicator in display), and the current day of week correctly to avoid problems with program execution.*

1. When in normal operating mode, press the **DAY/TIME** keypad button. The LCD display will be cleared except for the time, am/pm indicator and the day of the week. The hour portion of the time will flash.
2. Press the ∧ or ∨ button to set the current hour.
3. Press the **DAY/TIME** button again, the minute portion of the time will flash.
4. Press the ∧ or ∨ button to set the current minute.
5. Press the **DAY/TIME** button again, the day of the week indicator will flash.
6. Press the ∧ or ∨ button to set the current day of the week.
7. Press the **DAY/TIME** button again and the thermostat will return to normal operating mode.

NOTE: *The thermostat will return to normal operating mode automatically after 15 seconds if no key is pressed. It will also return to normal operating mode immediately if the **RETURN** button is pressed.*

4.3 Setting Thermostat User Options

The default user options are compatible with most systems and applications. They are normally set at the time of installation and usually do not require modification under normal operating conditions. If you desire to change these settings, simply follow the instructions below.

4.3.1 *Setting Thermostat Differentials*

NOTE: *The temperature differential settings are the same for both the heating and cooling systems.*

First Stage Differential

The default setting is 0.5˚ F (0.25˚ C). The room temperature must change 0.5˚ F (0.25˚ C) from the setpoint temperature before the thermostat will initiate the system in heating or cooling.

1. In normal operating mode, press and hold the **RETURN** button for 4 seconds. The LCD display will show "**d1 x**", where "**x**" equals the ˚F / ˚C differential setting. This is the current temperature differential setting.
2. Press the ∧ or ∨ button to set the temperature differential to your desired setting of 0.5˚, 1˚, or 2˚ F (0.25˚, 0.5˚, or 1˚ C).

Second Stage Differential

The default setting is 2˚ F (1.0˚ C). This means that the room temperature must change 2˚ F (1.0˚ C) in addition to the first stage differential setting before the thermostat will initiate the second stage of heating.

3. Press and hold the **RETURN** button again and the LCD display will show "**d2 x**", where "**x**" equals the ˚F / ˚C differential setting. This is the current second stage differential setting.
4. Press the ∧ or ∨ button to set the second stage differential to your desired setting of 2˚, 3˚, 4˚, 5˚, or 6˚ F (1.0˚, 1.5˚, 2.0˚, 2.5˚, or 3.0˚ C).

NOTE: *Once you have finished setting the temperature differential you can wait 15 seconds and the thermostat will automatically return to the normal operation mode. Otherwise, you can press the **RETURN** to set the Extended Hold Time.*

4.3 Setting Thermostat User Options *cont.*

4.3.2 *Setting the Extended Hold Time (see also section 5.3)*

The default setting is Long (indefinite) Hold. If the HOLD feature is activated, the current setpoint will be held until HOLD is released.

5. After pressing the **RETURN** button again, the display will show "**HOLD LG**", where **LG** is indefinite hold.
6. Press the ∧ or ∨ button to change the Extended Hold time from indefinite (**LG**) to 24 hours (**SH**).
7. Press the **RETURN** button again to set the Filter Check Monitor or wait 15 seconds for the thermostat to return to the normal mode.

4.3.3 *Setting Filter Check Monitor (see also section 5.7)*

The default setting is 0 days (Filter Monitor disabled).

8. After pressing the **RETURN** button again, the display will show "**FILT XXX SET**" where **XXX** is the Filter Monitor interval.
9. Press the ∧ or ∨ button to change the Filter Monitor interval to the desired value of 0 (disabled), 30, 60, 90, 120, or 180 days.
10. Press the **RETURN** button again or wait 15 seconds for the thermostat to return to the normal mode.

4.4 Setting Your Energy Saving Programs–Tips Before Starting

- It is important for you to set the current time of day (note the AM/PM indicator in the display), and the current day of week correctly to avoid problems with program execution. This must be done prior to entering any program settings.
- The heating and cooling programs have both separate setpoint times and setpoint temperatures.
- This thermostat is preprogrammed with weekday and weekend setpoint times and temperatures recommended by the Environmental Protection Agency and the U.S. Department of Energy in their ENERGY STAR® program. These settings provide efficient energy savings during normal heating and cooling modes of operation. If you desire to use the setting in the table, no further programming is necessary. Review these time and temperature settings prior to establishing your personal program settings to maximize your savings, and minimize programming requirements.

	Weekday	Weekend
MORN	Time: 6:00 am Heat: 70˚ F (21˚ C) Cool: 75˚ F (24˚ C)	Time: 6:00 am Heat: 70˚ F (21˚ C) Cool: 75˚ F (24˚ C)
DAY	Time: 8:00 am Heat: 62˚ F (17˚ C) Cool: 83˚ F (28˚ C)	Time: 8:00 am Heat: 70˚ F (21˚ C) Cool: 75˚ F (24˚ C)
EVE	Time: 6:00 pm Heat: 70˚ F (21˚ C) Cool: 75˚ F (24˚ C)	Time: 6:00 pm Heat: 70˚ F (21˚ C) Cool: 75˚ F (24˚ C)
NIGHT	Time: 10:00 pm Heat: 62˚ F (17˚ C) Cool: 78˚ F (26˚ C)	Time: 10:00 pm Heat: 62˚ F (17˚ C) Cool: 78˚ F (26˚ C)

- Make sure you place the system switch in the **HEAT** or **COOL** modes of operation as appropriate. You should not enter a program in the **OFF** position.
- When you place the system switch in the **COOL** or **HEAT** modes of operation, the appropriate indicator will also appear in the LCD display when the system is running.
- When you place the system switch in the **OFF** mode the display will indicate **OFF**.

4 PROGRAMMING *cont.*

4.4 Setting Your Energy Saving Programs *cont.*

4.4.1 *Programming Overview*

Your thermostat contains separate Weekday and Weekend Program Groups that allow you to change the daily setpoint times and temperatures to meet your individual schedule needs.

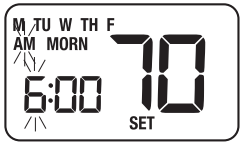
Weekday - allows you to program all the weekdays (M, TU, W, TH, F will show in display) at the same time. Allows programming times and temperature settings for four setpoints (MORN, DAY, EVE & NIGHT) to meet your weekday schedule needs.

Weekend - allows you to program all the weekend days (SA, SU will show in the display) at the same time. Again allows programming times and temperature settings for four setpoints (MORN, DAY, EVE & NIGHT) to meet your weekend schedule needs.

4.4.2 *Entering Your Program*

1. Place the system switch in the **HEAT** mode of operation.

2. Press the **PROG** button to enter Program setting mode. The **MORN** setpoint of the Weekday Program Group will be displayed. The display will show **M, TU, W, TH, F** to indicate the Weekday group is being programmed. The hour portion of the setpoint time and the **AM/PM** indicator will be flashing.



3. Press the ∧ or ∨ button to change the time to the desired hour in 1 hour increments, press the **PROG** button to save. The minute portion of the setpoint time will begin flashing.

4. Press the ∧ or ∨ button to change the time to the desired minute in 10-minute increments, press the **PROG** button to save. The **SET TEMP** will begin flashing.

5. Press the ∧ or ∨ button to change the setpoint temperature to the desired setting in 1˚ F increments (0.5˚ C), press the **PROG** button to save. The thermostat will now display the **DAY** setpoint time and temperature. Again, you will see the hour portion of the setpoint time and the **AM/PM** indicator will be flashing.

6. Follow steps 3 through 5 to set the setpoint times and temperatures for the **MORN, DAY, EVE** and **NIGHT** setpoints for the Weekday group in the **HEAT** mode.

7. After pressing the **PROG** button, you will enter the Weekend Program Group. The display will show SA, SU to indicate the Weekend group is being programmed. The hour portion of the **MORN** setpoint time and the **AM/PM** indicator will be flashing.

8. Follow steps 3 through 5 to set the setpoint times and temperatures for the **MORN, DAY, EVE** and **NIGHT** setpoints for the Weekend group in the **HEAT** mode.

9. Place the system switch in the **COOL** mode of operation. The display will show **COOL**. Follow steps 2 through 8 to program the setpoint times and temperatures for the Weekday and Weekend groups in the **COOL** mode.

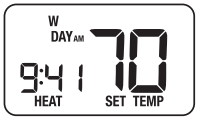
NOTE: *To erase all entered programs, current time of day, day of week and other user settings, gently press the **RESET** button using a paper clip or a small pencil tip. This will return all thermostat settings to their default values.*

5 ADDITIONAL OPERATION FEATURES

5.1 Review Set Temperature

1. Press and hold the ∧ or ∨ button. The current setpoint temperature will be displayed in the place of the current room temperature, and the indicator **SET TEMP** will be displayed.

2. The display will return to normal operating mode when the ∧ or ∨ button is released. Continuing to hold the ∧ or ∨ button for 3 seconds or longer will allow the user to temporarily override the current programmed setpoint (See *Temporary Program Override*).

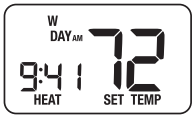


5.2 Temporary Program Override

1. Press and hold the ∧ or ∨ button for 3 seconds. The entire display will flash once and the **SET TEMP** indicator will be displayed. Release the ∧ or ∨ button and press the ∧ or ∨ button again as desired to adjust the set temperature.

2. The display will return to normal operating mode after 15 seconds or you can press the **RETURN** button.

3. The program indicator (**MORN, DAY, EVE OR NIGHT**) will be flashing in the display, indicating that a Temporary Program Override is in effect. The Temporary Program Override will reset when the next setpoint time occurs or after 4 hours- whichever comes first.

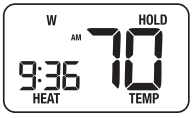


5.3 Extended Hold (Vacation) Mode

1. Press the **HOLD** button to bypass the program schedule. The current setpoint temperature will be held either permanently or for 24 hours depending on the setting selection made in section 4.3.2.

2. Press the **HOLD** button again to return the thermostat to normal program operation.

3. The hold period lasts until the hold is released as in step #2 above, or is limited to 24 hours if the default was changed in the User Options Settings (see section 4.3.2).



5 ADDITIONAL OPERATION FEATURES *cont.*

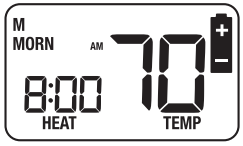
5.4 Compressor Protection

This thermostat includes an automatic compressor protection feature to avoid potential damage to the compressor from short cycling. This thermostat automatically provides a 5-minute delay after turning off the cooling or heating system output to protect the compressor.

NOTE: *The installer can reset the thermostat and bypass the compressor protection features by pressing the **RESET** button. This will erase all entered programs, current time of day, day of week and other user settings and should only be used during installation for testing purposes or to reset a thermostat to regain normal operation.This will return all thermostat settings to their default values. The user will have* to *reprogram all of the erased settings.*

5.5 Low Battery Detection and Replacement

This thermostat requires two (2) properly installed "AA" alkaline batteries to provide back-up power for the thermostat. The thermostat must have 24 Volt AC power present for proper system operation and control.



This thermostat is equipped with a low battery detection feature that constantly monitors the batteries during normal operating mode to determine whether they have sufficient power to provide back-up power.

When this feature determines that the battery status is low, a low battery indicator will appear in the display. It is recommended that the batteries be replaced immediately to maintain the system clock in the event of a power outage.

Replacing the Batteries

1. Open the thermostat cover and locate the battery compartment door.
2. Gently remove the two "AA" alkaline batteries located in the battery compartment.
3. Install two new "AA" alkaline batteries into battery compartment. Make sure to match the positive (+) ends of the batteries with the positive (+) terminals located in the battery compartment.
4. Close battery compartment and verify that the low battery indicator does not appear in the display.

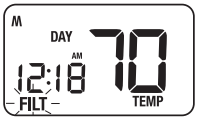
5.6 Adaptive Recovery Mode (ARM™)

This thermostat is equipped with a special feature to maximize your energy savings by utilizing the most effective source of heating or cooling to meet your program needs during recovery from setback (or setup) temperatures. Our Adaptive Recovery Mode (ARM™) feature is designed to automatically calculate when to turn your first stage of your multi stage heating or cooling system to meet your upcoming comfort setpoint temperature setting. While in normal operating mode, this feature will start calculating the start time for your first stage two hours prior to the upcoming comfort setpoint temperature. During this two hour time period it will monitor performance and control your system staging requirements. The second (auxiliary) stage of heating will be available during this 2-hour period if required to meet extraordinary heating requirements.

5 ADDITIONAL OPERATION FEATURES *cont.*

5.7 Filter Check Monitor (see section 4.3.3 for setting)

The Filter Check Monitor displays a reminder for required filter replacement or cleaning, by flashing the **FILT** segment in the display. See instructions on your filter or heating/cooling unit for recommendations for interval setting.



When the selected interval has been reached, and required cleaning or replacement has been performed, press the **RETURN** button in any normal mode to reset the timer and turn off the warning.

5.8 Resetting the Thermostat

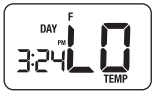
The Reset feature allows the user to completely reset the thermostat to register new manual switch settings.

1. To erase all entered programs, current time of day, day of week and other user settings, gently press the **RESET** button using a paper clip or a small pencil tip.
2. This will return all thermostat settings to their default values and register all new manual switch settings for proper operation.

6 TROUBLESHOOTING

SYMPTOM	POTENTIAL SOLUTION
Thermostat does not turn on heating or cooling system.	Check to see if **OFF** is shown in display. This indicates that the system is turned off at the thermostat. Move the system selector switch to the **HEAT** or **COOL** position. After the compressor short cycle protection 5-minute period expires the system should start within a minutes time. Compressor protection features may be in effect due to compressor short cycle conditions, power outages or rolling blackouts. See *Compressor Protection Features* section for full explanation of this feature. Heat Pump may be malfunctioning. Review the **CHECK** status indicator light to see if it is lit. If the **CHECK** status indicator light is lit, call a professional service technician to confirm heat pump operation and provide necessary service. If heating is required you can slide the system switch to **EMER** setting which will start the Emergency Heat source to provide heating until the heat pump can be serviced.
Thermostat turns on heating instead of cooling, or cooling instead of heating.	Check thermostat wiring to make sure that the heating and cooling stages are connected to the correct terminals on the wiring terminal block. See *Installation* and *Wiring Diagram* sections of this manual.
Thermostat turns heating or cooling system on too often or not often enough.	Increase or decrease first stage temperature differential setting as appropriate to provide the desired performance level. See *Setting Temperature Differential* section of this manual.

SYMPTOM	POTENTIAL SOLUTION
Thermostat will not follow program setpoints.	Check current time of day, day of week program settings. Make sure to verify **AM/PM** indicator is accurately displaying desired time settings. See *Setting Current Time of Day and Day of Week* section of this manual. Check to see if **OFF** is shown in display. This indicates that the system is turned off at the thermostat. Move the system selector switch to the **HEAT** or **COOL** position. After the compressor short cycle protection 5-minute period expires the system should start within several seconds. Verify your program setpoint time entries. The heating and cooling programs utilize the same setpoint times, but have individual setpoint temperatures for the **MORN, DAY, EVE** and **NIGHT** setpoints. See *Setting Your Energy Saving Program* section of this manual. Thermostat program has been temporarily overridden and program indicator is flashing in the display. Wait till next setpoint and the temporary override will expire or change setpoint temperature to desired comfort level. Thermostat program is in Extended Hold (Vacation) Mode and **HOLD** and **TEMP** is showing in display. Press **HOLD** or **RETURN** button to release permanent hold and return the thermostat to normal program operation.
Thermostat turns on second (auxiliary) stage of heating too quickly or not quickly enough.	Increase or decrease second (auxiliary) stage temperature differential setting as appropriate to provide the desired performance level. See *Setting Temperature Differential* section of this manual.
Low battery indicator is shown in thermostat display.	Replace back-up batteries as soon as possible. See *Low Battery Detection and Replacement* section of this manual.
OFF is shown in thermostat display and heating or cooling system will not start. 	This indicates that the system is turned off at the thermostat. Move the system selector switch to the **HEAT** or **COOL** position. After the compressor short cycle protection 5-minute period expires the system should start within several seconds.
Thermostat will not allow me to program a setpoint temperature higher than 90˚ F (32˚ C).	This is above the normal thermostat temperature setting range of 45˚ to 90˚ F (7˚ to 32˚ C).

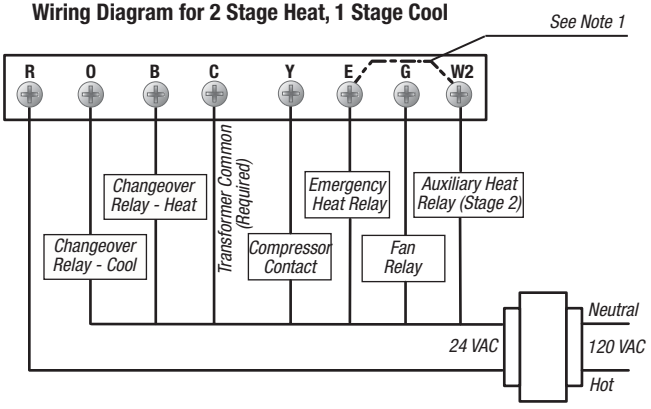
SYMPTOM	POTENTIAL SOLUTION
Thermostat display is blank.	It is possible that AC power is not present at the thermostat and the back-up batteries are fully discharged. Check fuse, circuit breaker and thermostat wiring as appropriate to verify AC power is available. Replace back-up batteries before reprogramming thermostat to make sure you have back-up power. See *Low Battery Detection and Replacement* and *Setting Your Energy Saving Program* sections of this manual. If AC Power is present, call a professional service technician to verify thermostat and system performance.
HI is shown in the thermostat display where the room temperature is normally displayed. 	The temperature sensed by the thermostat is higher than the 99˚ F (37˚ C) upper limit of the thermostats display range. The display will return to normal after the sensed temperature lowers within the 40˚ to 99˚ F (5˚ to 37˚ C) display range. Turn on the cooling system or use other methods to lower the temperature accordingly. This condition could occur from the system being turned off during an exceptionally warm period or upon installation when the thermostat has been stored for a long period of time in a warm vehicle or location prior to being installed. The thermostat is equipped with a mechanical high temperature safety switch that will turn off the thermostat should the temperature exceed 99˚ F (37˚ C) in the heat mode.
LO is shown in the thermostat display where the room temperature is normally displayed. 	The temperature sensed by the thermostat is lower than the 40˚ F (5˚ C) lower limit of the thermostats display range. The display will return to normal after the sensed temperature rises within the 40˚ to 99˚ F (5˚ to 37˚ C) display range. If the temperature in the controlled space seems to be normal, wait for the thermostat to acclimate to the correct room temperature. If the room seems to be colder than usual, turn on the heating system to raise the temperature as needed for comfort within the room. This condition could occur from the system being turned off during a cold weather period or upon installation when the thermostat has been stored for a long period of time in a cold vehicle or location prior to being installed. The thermostat should be allowed to warm up prior to installation to allow proper heating control once installed.
Thermostat will not allow me to program a set point temperature lower than 45˚ F (7˚ C).	This is below the normal thermostat temperature setting range of 45˚ to 90˚ F (7˚ to 32˚ C).
Fan continues to run all the time whether the system is on or off.	Check that the fan control switch is in the **AUTO** position. This will allow the fan to run only when the heating or cooling system is turned on and running. Check thermostat wiring to make sure that the fan control wiring is connected to the correct terminals on the wiring terminal block. See *Installation* and *Wiring Diagram* sections of this manual.

6 TROUBLESHOOTING *cont.*

SYMPTOM	POTENTIAL SOLUTION
The room is too warm or too cold.	See Review Set Temperature section of this manual to verify the current set point and make any modifications that are necessary.
System turns on prior to the end of a setback period.	Thermostat is in Adaptive Recovery Mode (see section 5.6).

7 WIRING DIAGRAM

Wiring Diagram for 2 Stage Heat, 1 Stage Cool



NOTE: *1. Jumper is required to use Auxiliary Heat for both Second Stage and Emergency Heat on units without separate Emergency Heat and Auxiliary Heat terminals.*

2. Make O/B connections as required by unit.

5 YEAR LIMITED WARRANTY

Store this booklet for future reference

ENERGY STAR

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Braeburn Systems LLC, as an ENERGY STAR® partner, has determined that this product meets the ENERGY STAR Guidelines developed by the U.S. Environmental Protection Agency and the U.S. Department of Energy for maximum energy efficiency.

Braeburn Systems LLC warrants each new Braeburn thermostat against any defects that are due to faulty material or workmanship for a period of five years after the original date of purchase by a professional service technician. This warranty and our liability does not apply to batteries, nor does it include damage to merchandise or the thermostat resulting from accident, alteration, neglect, misuse, improper installation or any other failure to follow Braeburn installation and operating instructions.

Braeburn Systems LLC agrees to repair or replace at its option any Braeburn thermostat under warranty provided it is returned postage prepaid to our warranty facility in a padded carton within the warranty period, with proof of the original date of purchase and a brief description of the malfunction. This limited warranty does not include the cost of removal or re-installation.

This warranty gives you specific legal rights and you may also have other rights that vary from state to state or province to province. Answers to any questions regarding our limited warranty may be obtained by writing our corporate offices.

WARRANTY FACILITY: Braeburn Systems LLC
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